

SCOTTSDALE AIRPORT F.A.R. PART 150 NOISE COMPATIBILITY PROGRAM UPDATE

RESPONSES TO PUBLIC HEARING COMMENTS – Nov. 13-20, 1996

1. Approaches from the north to Runway 21 are too low because the land is several hundred feet higher than the airport. Aircraft should be kept above 3,000 feet above mean sea level (MSL) as they come in from the west to intercept the final approach course, and they should keep five miles north of Pinnacle Peak Road.

Response: A large residential area surrounds the intersection of Pinnacle Peak and Pima Roads, beyond the study area map used in the Part 150 Study. (Pinnacle Peak Road is one mile north of Deer Valley Road, the northernmost road shown on the study area maps.) The housing area ranges from 3.5 to 6.5 miles north of the runway end. Elevations in this area range from 1,800 to 2,200 feet above mean sea level (MSL). The airport elevation is 1,508 feet.

The traffic pattern altitude for jets is 3,000 feet MSL. The traffic pattern altitude for propeller aircraft is 2,500 feet MSL. If propeller aircraft are at pattern altitude over these residential areas north of Deer Valley Road, they will range from 300 to 700 feet above the ground. If propeller aircraft are directed to maintain an altitude of 3,000 feet MSL over these areas, it must be assured that they will not conflict with jet traffic flying at pattern altitude in this area.

If propeller aircraft are to be routinely directed to be at 3,000 feet MSL or higher, jets in this area should be at 3,500 feet MSL or higher to maintain safe vertical separation. Jets on a four-degree descent will reach 3,500 feet MSL about 28,600 feet from the threshold of Runway 21. Jets on a three-degree descent will be at 3,500 feet MSL about 40,000 feet from the threshold. These points range between Pinnacle Peak Road and Jomax Road, about one to three miles north of Deer Valley Road. If a jet was approaching the airport from due north, it would be descending below 3,500 feet over this residential area north of Deer Valley Road. Given the potential for conflict, it would not be prudent to raise the requested altitude for propeller aircraft in this area.

While raising the altitude of propeller aircraft in the residential area north of the airport is not practical, aircraft should be requested to avoid overflights of residential areas north of the airport whenever possible. (This will be Noise Abatement Measure 11 in the final version of the updated Noise compatibility Plan.) This should be included in an updated pilot guide.

It is not reasonable to require approaches to line up on the runway five miles north of Pinnacle Peak Road. That is more than nine miles north of the runway end and would require aircraft to fly over the north end of the McDowell Mountain range where elevations range from 3,000 to 3,700 feet.

2. Aircraft making approaches to Runway 21 should be brought in from the west at varying distances from three to seven miles out in order not to impact any one set of neighborhoods more than another.

Response: To examine this concern, flight track data from the computer records of the Phoenix TRACON were secured and analyzed. Five days of data were reviewed (July 8 and September 13-16, 1996). Most of the jets appeared to be aligned with the runway one nautical mile northeast of the runway threshold. Beyond that point, jets were widely scattered across the area north of the airport. With one exception, the data indicated that no single residential area north of the airport is currently subjected to a higher proportion of approaches than any other. The exception is the east edge of the Ironwood community, one mile north of Bell Road on the east side of Pima Road. This part of the neighborhood is directly aligned with the runway and lies two miles from the runway threshold. Many aircraft were established on the final approach at this point.

In conclusion, it appears that jet traffic approaching Runway 21 from the north is already sufficiently scattered and no special procedures are needed.

3. I was not able to understand noise abatement Item 6.

Response: In the original working paper (Chapter 7, Noise Compatibility Plan), Noise Abatement Measure 6 reads as follows: "Continue to discourage right downwind, right base and straight-in approaches, and right turn outs prior to the airport boundary off Runway 3." The terms "right downwind" and "right base" refer to legs of a standard air traffic pattern. A right downwind leg to Runway 3 would put aircraft east of the airport heading southwest parallel to the runway. A right base leg would involve a right turn from the downwind leg. The aircraft would be heading northwest perpendicular to the runway. The aircraft would then turn to the right to intercept the final approach to the runway.

Under this measure, the use of a right-hand traffic pattern on Runway 3 would be discouraged. This would avoid low altitude overflights east of the airport. In addition, long, straight-in approaches would be discouraged. This would minimize the size of the area southwest of the airport affected by approaches to the runway. This measure is intended to encourage aircraft landing on Runway 3 to approach the airport from the west and make a short final approach.

The final part of this measure encourages aircraft taking off on Runway 3 to climb on runway heading until reaching the airport boundary before turning right (to the east).

This measure would continue current practices at the airport that have been in effect for many years.

4. It was stated that 60 percent of the flights are going to the northeast. Two years ago NEVCO was told that after radar was available, we could conceivably see a 50/50 split. Phoenix neighborhoods should be given more consideration. A greater share of the flights should be sent out on Runway 3 (to the northeast).

Response: The actual runway use percentages used for noise modeling were as follows:

Northeast flow (takeoffs and landings on Runway 3) – 55 percent during the day and 75 percent at night.

Southwest flow (takeoffs and landings on Runway 21) – 45 percent during the day and 25 percent at night. (See page 2-12 in the *Noise Exposure Maps* document.)

Runway 3 is currently designated the "calm wind runway." This means that whenever winds are light or calm (three to five knots or less), takeoffs and landings should be made on that runway. That means takeoffs would go to the northeast and landings would come in from the southwest. This policy has been established for noise abatement. Most aircraft are louder on departure than on approach. This policy is intended to put the noisiest events north of the airport over the desert whenever possible.

When winds are moderate to strong, aircraft must use the runway most directly aligned with the wind.

5. Is there any way to prevent the loudest jets from using Scottsdale Airport? Nighttime restrictions and other noise abatement procedures such as imposed at John Wayne Airport in Orange County, California should be established. Jets should be required to use Sky Harbor instead of Scottsdale.

Response: The potential adoption of various operating restrictions, including nighttime curfews, at Scottsdale Airport was discussed in Chapter Five, Noise Abatement Alternatives, in the *Noise*

Compatibility Program document. (See pages 5-7 to 5-12.) It was concluded that given the very small impact of noise above 65 DNL, the level that the FAA considers significant, curfews and other operating restrictions could not be justified. (Based on current noise levels, no noise-sensitive land uses are exposed to noise above 65 DNL. This remains true for the year 2000 forecast, assuming implementation of the noise abatement recommendations.)

New federal regulations applicable to curfews and other airport noise and access restrictions also deserve mention. Pursuant to federal legislation (the Airport Noise and Capacity Act of 1990 – ANCA), proposed airport noise and access restrictions require special study and justification under the requirements of Federal Aviation Regulation (F.A.R.) Part 161. (See pages 5-7 through 5-9 in Chapter Five, Noise Abatement Alternatives, in the *Noise Compatibility Program* document.) In addition, any restrictions on operations by Stage 3 jet aircraft require the explicit approval of the Federal Aviation Administration; airport operators do not have the legal authority to adopt such restrictions. (The Part 161 regulations apply to all airports regardless of whether they receive federal funding assistance or are publicly or privately financed.)

The first step in a Part 161 Study is to show that the proposed operating restriction would produce a significant noise abatement benefit. The FAA considers this a reduction in the number of people and noise-sensitive land uses exposed to noise above 65 DNL. The study also must thoroughly analyze alternatives to the proposed restriction and compare the costs of the restriction with the benefits.

Thus far, no airport in the country has successfully completed a Part 161 Study that recommended establishment of airport operating restrictions.

Some commenters mentioned the noise restrictions at John Wayne Airport in Orange County, California. Those restrictions were established before ANCA and F.A.R. Part 161 were enacted. They were “grandfathered” by ANCA. If an airport proposed similar restrictions today, they would have to be evaluated under the regulations of F.A.R. Part 161.

6. *Run-ups should be done only during the day and only Monday through Friday.*

Response: Engine maintenance and run-ups are currently prohibited between 10:00 p.m. and 7:00 a.m. except for emergencies. This restriction does not apply to preflight run-ups which are a necessary part of the safe operation of the aircraft. (Preflight run-ups are not as disturbing as maintenance run-ups because they tend to be very brief.)

Maintenance run-ups are currently permitted on weekends, subject to the nighttime prohibition. It is considered necessary to continue allowing weekend maintenance run-ups since this gives aircraft operators needed flexibility in scheduling maintenance. For example, business aircraft often need to be available for use on weekdays, making weekend scheduling of maintenance practical. It is believed that the nighttime restriction prevents the potentially most disturbing run-up noise events.

7. *Aircraft on approach to Runway 3 (from the southwest) are too low. Aircraft departing to the southwest are too low.*

Response: It is recognized that aircraft on approach to Runway 3 will appear to be quite low from the vantage point of the close-in development southwest of the airport. In the past, two things have been done to help mitigate this concern. First, the approach end of Runway 3 has been displaced 750 feet to the northeast. (On a normal approach, pilots will aim at a touchdown point about 1,000 feet beyond the edge of the runway. When landing on Runway 3, touchdown will occur roughly 1,750 feet northeast of the end of the runway pavement.) Second, the approach slope has been raised from the standard three degrees to four degrees. This steeper approach means that aircraft descend one foot for every 14.3 feet of horizontal distance. (The normal rate

of descent is one foot for every 20 feet.) Expressed in mathematical terms, a four-degree glideslope equates to a slope ration of 14.3:1.

On a four-degree slope, aircraft should be about 830 feet above the ground when they cross 64th Street, 770 feet when they cross Cactus Road, and 303 feet when they cross Scottsdale Road. (These points are about 11,900, 11,000, and 4,340 feet from the touchdown point.) If aircraft were using a three-degree slope, they would be 595, 550, and 217 feet above the ground at these points.

The four-degree approach slope is indicated by a special system of lights projected upwards along the extended runway centerline. On occasions this system has been shut down for maintenance. At those times, pilots make the approach without any special aids. It is entirely possible that some pilots may tend to use a flatter rate of descent at these times since that is generally more familiar to them. In other words, it is entirely possible that some aircraft would be lower than normal on those occasions when the approach slope indicator lights are out of service.

The airport staff recently made observations in the field southwest of the airport to check aircraft altitudes on approach. They found that aircraft were at widely varying altitudes. When these observations were made, the visual approach slope indicator (VASI) lights were out of service. In fact, they were out of service for about two months while they were being replaced with precision approach path indicator (PAPI) lights. (The PAPI is an improved approach path indicator, offering sharper visual discrimination than the older VASI systems.) The new PAPI system went online on December 12. It is expected that this will reduce the variation of aircraft altitudes on approach. The airport staff intends to check this in the coming weeks.

8. *Touch-and-go operations should be regulated. They should be completely prohibited or they should be prohibited at night and on weekends. When making training flights, pilots should be required to spend more time aloft and away from the immediate airport area.*

Response: Current airport policy discourages touch-and-go and stop-and-go operations between 9:30 p.m. and 6:00 a.m. This policy is published in the current Tower Order used by the Airport Traffic Control Tower. It is also to be published in the updated version of the Scottsdale Airport Pilot Guide.

A complete prohibition of touch-and-go's is not justified since the noise analysis undertaken in the Noise Compatibility Study indicates that they are not a significant problem. A complete prohibition would require the airport to comply with F.A.R. Part 161. Also, see the response to Comment 5.

9. *We bought our property recently, and no disclosure of the impact of the airport (Fair Disclosure) was made to us. My real estate agent dismissed my concern when I complained about the airport. When we bought our home, we were told that nothing would ever be done to increase the airport from use by small, single-engine aircraft.*

Response: There is currently no requirement in either Phoenix or Scottsdale for sellers or real estate agents to inform prospective buyers of the impact of the airport. Fair disclosure regulations, whereby sellers of property are required to notify prospective buyers of the presence and impact of the airport have never been established in the airport area. In some recent development projects, Phoenix and Scottsdale have required developers to disclose the impact of the airport to prospective buyers in these new subdivisions. (This requirement has been imposed as a condition of development approval.) Fair disclosure requirements have never been applied in areas that have already been developed.

The Noise Compatibility Plan recommends that developers of any new projects within the Airport Influence Area be required to record Fair Disclosure covenants binding all future property owners in the development to disclose potential airport impacts to prospective buyers. (See Land Use Management Measures 6, 7, and 8 discussed on pages 7-12 through 7-17 of Chapter Seven,

Noise Compatibility Plan.) As a covenant running with the land, all future owners of the property in the development project would be required to make this disclosure. Under the proposed disclosure requirements, owners would have to state in the sales listing information that the property is within the Airport Influence Area. They also would have to show buyers a copy of the latest airport noise exposure maps.

This policy would apply only in new development projects. It still would not mandate fair disclosure in neighborhoods that have already been developed.

10. *When will we see the regional traffic begin with Embraer commuter turboprops and Canadair jets?*

Response: No carriers currently have any plans to start providing commercial service at Scottsdale Airport with 19-passenger or larger turboprop or jet aircraft. The Airport Master Plan forecasts that 19-passenger turboprops will be serving Scottsdale Airport by the year 2005. (The Beech 1900 is an example of a 19-passenger turboprop. It is similar in size to the largest twin-engine aircraft now using the airport.) Larger aircraft, such as the Canadair Regional Jet and the Embraer 120, are projected to begin serving the airport between 2005 and 2015. The Canadair Regional Jet is a small, extremely quiet, Stage 3 commercial jet. It is similar in size to the largest business jets now using Scottsdale Airport. The Embraer 120 is a 34-passenger, twin engine turboprop.

11. *What provisions are being made for protection of our homes? Because of the noise, it is difficult to consider selling our home. Will there be anything like sound insulation offered to existing residents? What does the City of Scottsdale intend to do to compensate current residents impacted by aircraft noise?*

Response: The proposed Noise Compatibility Program recommends no programs to compensate existing residents for the impact of airport noise. The FAA provides funding assistance for these programs only for property exposed to noise above 65 DNL. (Homes in areas impacted by noise above 65 DNL are considered by the FAA to be significantly impacted by aircraft noise.) At Scottsdale, no homes are impacted by noise above 65 DNL based on 1996 noise levels. In the year 2000, assuming implementation of the noise abatement recommendations, no homes will be impacted by noise above 65 DNL.

12. *The noise study fails to take into consideration the duration of the noise levels and the frequency of overflights.*

Response: The noise contours developed in the Part 150 Noise Compatibility Study are expressed using the day-night sound level (DNL) noise metric. In addition to the loudness of noise, the DNL metric specifically accounts for the duration of noise levels and the frequency of occurrence of noise events. The FAA requires the use of DNL in Part 150 Noise Compatibility Studies, pursuant to a Congressional directive in the Aviation Safety and Noise Abatement Act of 1979.

The mandatory use of DNL is based on the scientific fact that cumulative noise exposure over a period of time best predicts when people will consider noise a significant intrusion into their lives. While a single, very loud noise event may interrupt a conversation, most people will not consider it a major problem in their lives. The longer these events last or the more frequently they occur, people increasingly will consider them to be a significant problem.

For information on the measurement, analysis, and impact of noise, please see the Technical Information Papers (TIPs) at the back of the *Noise Exposure Maps* document. See, in particular, the papers entitled, "The Measurement and Analysis of Sound" and "Effects of Noise Exposure."

13. The option of requiring some departures from Runway 21 (to the southwest) to turn left over Scottsdale was quickly dismissed. The City Council should require that one half of all Runway 21 departures turn over the City Scottsdale.

Response: The option of turning Runway 21 departures to the east was discussed at some length at the Planning Advisory Committee meetings held during the study. It was analyzed in an addendum to Chapter Five, Noise Abatement Alternatives. There are several obstacles to implementing this procedure. Most of them involve airspace constraints and potential traffic conflicts.

Despite these serious obstacles, the consultant developed a noise analysis to determine the noise effects of requiring aircraft to turn left, rather than right, after taking off from Runway 21. It was found that the number of people exposed to noise above 65 DNL, based on projections for the year 2000, would increase from six to twenty. Thus, besides the serious airspace and air traffic control problems, the procedure actually would increase the number of people exposed to significant noise levels. For these reasons, this option was not considered viable.

For more information, please see pages 21 through 23 in the draft version of Chapter Five, Noise Abatement Alternatives.

14. Instead of just making recommendations, why doesn't the airport staff use certain enforcement methods to ensure that pilots use noise abatement methods for takeoffs and landings?

Response: Federal regulations give the pilot the ultimate responsibility for the safe operation of his or her aircraft. Consequently, it is not legally possible for airport operators directly to require pilots to use specific techniques for operating the aircraft.

Before 1990, some airports established maximum noise limits that essentially required the noisiest aircraft to avoid the airport or to be flown using certain noise abatement procedures. These regulations were enforced with permanent noise monitoring and flight tracking systems and fines and penalties.

Besides the high costs of suitable noise and flight track monitoring systems (\$500,000 to \$1,000,000), recent federal regulations present formidable barriers to the establishment of these kinds of restrictions. F.A.R. Part 161 requires that airports contemplating airport noise and access restrictions undertake a detailed cost-benefit analysis and an analysis of alternatives to the proposed restrictions. Restrictions that would regulate Stage 3 aircraft can be approved only by the FAA after the completion of a Part 161 Study finding that the benefits outweigh the costs of the restriction.

Also, please see the response to Comment 5.

15. The airport should establish a tax or fee in addition to the present fees and taxes which would penalize those pilots who disregard the noise abatement requirements. Noisy aircraft, both jet and propeller-driven, should be taxed for landings and takeoffs at a higher rate, thereby encouraging aircraft owners to use another airport or to invest in quieter aircraft.

Response: Noise-based airport access or usage fees are specifically covered as airport noise and access restrictions subject to the requirements of F.A.R. Part 161. Also, please see the response to Comment 5.

16. Has the City of Scottsdale requested input from the Phoenix City Council about how residents from the City of Phoenix are being impacted by the actions of the City of Scottsdale?

Response: The Mayor of Phoenix and members of the Phoenix City Planning and Aviation Departments served on the Planning Advisory Committee for the study. They received copies of all working papers developed for the Airport Master Plan and the F.A.R. Part 150 Noise Compatibility Study.

17. Noise is currently unacceptable; further expansion of the airport and air traffic should not be considered.

In a sense, the use of an airport is similar to the use of an interstate highway. Traffic on the highway is influenced by market factors including local population growth and the development of business along the highway route. Air traffic at any airport is driven by similar market forces. As long as the Phoenix regional economy is expanding, population and economic growth pressure will be felt in the Scottsdale area. Some of this pressure is likely to be reflected in increased air traffic.

The airport is not "planning to increase air traffic," per se. The purpose of the current Airport Master Plan is to forecast potential future air traffic and to develop a plan to safely meet the needs of that traffic. The Airport Master Plan recommends that proposed improvements intended to accommodate more traffic should be constructed only if and when the demand actually materializes. FAA funding assistance for airport improvement projects is provided only after the demand for the facilities actually materializes. (It should be noted that the current airfield has sufficient capacity to accommodate growth in air traffic.)

The Airport Master Plan does not propose improvements that would fundamentally change the nature of the airport. Improvements needed to accommodate a larger class of aircraft, such as runway lengthening and widening of taxiway/runway separations, are not included in the Airport Master Plan.

Similarly, the Part 150 Noise Compatibility Study does not promote nor can it cause an increase in air traffic. It uses the forecasts developed in the Airport Master Plan to project airport noise levels in the future. It then recommends noise abatement and land use management policies to promote compatibility between the noise and local land use.

18. The noise compatibility study is critically flawed. The study takes an average of the noise rather than looking at what we residents actually hear. I don't believe the noise compatibility study accurately reflects the levels of noise in our neighborhood.

Response: The method of noise analysis used in the Part 150 Noise Compatibility Study is in full compliance with the rules set forth in F.A.R. Part 150. For specific information about noise analysis methods, see the Technical Information Papers (TIPs) at the end of the *Noise Exposure Maps* document. The TIPs entitled, "The Measurement and Analysis of Sound" and "Effects of Noise Exposure" are particularly helpful. They explain how the DNL noise levels are derived and review the research literature on the effects of noise exposure.

19. Has the City of Scottsdale entered into any agreements with any persons or organizations to limit, to any degree, overflights to or from the airport?

Response: The Cities of Scottsdale and Phoenix agreed upon a joint resolution in April 1978 which had implications for Scottsdale Airport. The two cities agreed that Sky Harbor International Airport would be the only airport in the two cities that would be allowed to accommodate large air carrier aircraft such as the B-727, B-737, DC-9, DC-8, and similar aircraft. That agreement remains in effect.

20. How has the City of Scottsdale influenced the flight patterns from the airport? How does it intend to influence flight patterns in the future?

Response: The City adopted a Part 150 Noise Compatibility Program 10 years ago. That document had a number of noise abatement measures that influenced flight patterns. The updated Noise Compatibility Program envisions the continuation of these noise abatement measures. The specific measures of the updated Noise Compatibility program intended to influence flight patterns are as follows:

2. Continue right turns as soon as practical when departing Runway 21 (to the southwest.)
5. For Runway 21: Continue to discourage straight-out and left turns after departure....
6. For Runway 3: Continue to discourage right downwind, right base and straight-in approaches, and right turn-outs on takeoff before the airport boundary.

See pages 7-2 through 7-4 of Chapter Seven, Noise Compatibility Plan.

The FAA Air Traffic Manager at Scottsdale has reflected these noise abatement procedures in Tower Order SDL 7110.1H. The order instructs air traffic controllers to convey this information to pilots as noise abatement advisories. In addition, the FAA has established two "standard instrument departures" (SIDs) for Scottsdale. Aircraft on instrument flight rules (IFR) flight plans are often assigned these SIDs on takeoff. (This includes most multi-engine propeller and jet aircraft.) The purpose of the SIDs is to provide a clear and simple means of directing aircraft to a point northwest of the airport where they can be sequenced into the Class B airspace. Both SIDs direct IFR aircraft to turn to the west (when departing Runway 3) or northwest (when departing Runway 21) after takeoff.

21. Development in Phoenix southwest of the airport is often characterized as having encroached upon the airport. Aircraft activity has increased greatly in the years since Scottsdale Airport was opened. My house was built in [1957, 1965, 1971] when the airport was not very busy [or before it was built]. Because of the growth of the airport and the increased noise since then, the airport has encroached into my neighborhood. The noise and aircraft activity has increased with use of the airport by every larger planes. The number of jets seems to have been increasing over the past several years.

Response: Scottsdale Airport originated in the 1940s as a military airport. It was sold after the war and operated as a private facility through the 1950s and into the 1960s. The City bought the airport in 1966 and built a new paved runway that was opened in 1967. A review of historical aerial photographs of the Scottsdale Airport area shows quite clearly that residential development has gradually moved closer to the airport.

Table 1A in the *Noise Exposure Maps* document shows total takeoffs and landings (operations) at the airport from 1984 through 1994 (Pages 1-10). Operations increased from 156,612 in 1984 to 265,819 in 1990. They decreased over the next few years to 166,738 in 1994. Since then, operations increased to 178,109 in 1995 and 182,000 (estimated) in 1996.

22. The airport serves mostly as a convenience to people and business. The convenience offered to visitors is greatly outweighed by the burden upon me and residents in my neighborhood. The City Council should weigh the benefits of the airport against the burdens imposed upon the public.

Response: The City recognizes that aircraft using the airport create noise that disturbs many nearby residents. Although some people can be quite disturbed at times, the overall character of the noise problem is not severe when Scottsdale is compared with other busy urban airports.

Based on current noise levels, for example, no homes are exposed to noise above 65 DNL – the level above which the FAA considers aircraft noise to become a problem for noise-sensitive land uses. This remains true for the five-year forecast. Based on forecast noise for the year 2000, no homes or other noise-sensitive uses are expected to be exposed to noise above 65 DNL. (This assumes implementation of the noise abatement recommendations.)

The City considers the airport to be important to the local economy. Many businesses in the immediate airport area chose to locate there specifically because of the airport.

23. *Why can't the City pay a share of the fees it collects for use of the airport to the residents who bear the burden of the airport noise?*

Response: Airport revenues are used for operations and maintenance of the airport. No surplus is available for the purposes suggested by this question. Even if a surplus were available, it could not be used for non-airport purposes. At airports receiving federal grants in aid, federal law prohibits the diversion of airport revenues for non-airport purposes.

Airports with approved Noise Compatibility Plans can become eligible for noise mitigation funding through the Federal Airport Improvement Program. Mitigation expenditures are only eligible, however, for areas exposed to noise above 65 DNL. At Scottsdale, no homes or other noise-sensitive uses are inside the 65 DNL contour based on current conditions. Similarly, in the year 2000, no noise-sensitive uses are forecast to be inside the 65 DNL contour. (This assumes implementation of the noise abatement recommendations.)

24. *I am concerned about the safety of residing close to the airport near the flight paths used by low-flying aircraft. What has the airport done, in addition to FAA regulations, to ensure that there will not be another 64th Street crash, or 69th Street death resulting from airplanes drawn to the airport?*

Response: Areas most at risk of exposure to aircraft accidents are near the sides and off the ends of the runways. The Federal Aviation Administration (FAA) has established criteria for the definition of various safety areas in the immediate runway environment. The airport complies with these safety criteria. The FAA criteria also define fan-shaped runway protection zones (RPZs) off the ends of the runway. The RPZs at Scottsdale extend 1,900 feet off the ends of the runway. (See the "Airport Layout Plan" in Chapter Six, Airport Plans, of the Airport Master Plan.)

Scottsdale Airport has also developed a map showing altitudes in the airport vicinity that should be kept clear of obstructions to air navigation. This map, known as an F.A.R. Part 77 Airspace Plan, extends 14,000 feet from the runway. It defines a stadium-shaped series of surfaces that extend upward from the ground near the runway. This map is the basis for the regulations in Scottsdale's Airport Zone Height Ordinance. This ordinance limits the height of structures in the airport area. The Part 77 Airspace Plan also is used by the FAA when it reviews tall structures that may potentially be obstructions to air navigation. (See the "Part 77 Airspace Plan" in Chapter Six, Airport Plans, of the Airport Master Plan.)

25. *The Noise Compatibility Study cannot take a safety position that whatever happens at Scottsdale, it is okay as long as it is not as bad as Sky Harbor. Scottsdale should never be compared to Sky Harbor. They are completely different situations.*

Response: The Noise Compatibility Study has not compared Scottsdale Airport with Phoenix Sky Harbor International Airport. The airports are fundamentally different. The Noise Compatibility Study has recognized the special nature of Scottsdale Airport in many different ways. For example, DNL noise contours were plotted down to 55 DNL. This is far below the FAA's threshold of significant noise impact – the 65 DNL contour – which is the limit of noise mapping at most large international airports. The various noise abatement techniques analyzed in the Scottsdale Noise Compatibility Study have been evaluated for their potential benefits all the way down to 55

DNL, despite the fact that the FAA is concerned primarily with the effects of noise at levels of 65 DNL and higher.

26. *If the City of Scottsdale can deny landings to some aircraft (Boeing 727s, for example) why can it not deny use to other aircraft?*

Response: The City can deny use of the airport to large aircraft based on safety considerations. The airport is not built to adequate standards to safely accommodate large commercial aircraft. Some of the limiting factors include the 250-foot runway/taxiway separation and the 75,000 pound runway strength rating (dual wheel loading). The building setbacks from the runway and taxiway are also constraints. The Airport Master Plan recommends that the airport be designed for "airplane design group II" (aircraft with wingspans less than 79 feet).

27. *I want to commend the City of Scottsdale for segregating helicopters from the fixed wing aircraft. This greatly reduces the amount of noise that could be present.*

Response: In 1991, the Airport Traffic Control Tower entered into a Letter of Agreement with the helicopter operators using Scottsdale Airport. The agreement laid out helicopter arrival and departure routes separating helicopters from fixed-wing aircraft. The routes were designed to avoid, insofar as possible, the overflight of close-in residential neighborhoods.

28. *Aircraft noise is disturbing. The noise disturbs my rest and causes my dogs to bark. The noise drowns out phone conversations. The noise interrupts conversation both indoors and outdoors. Nighttime noise at [11:00 p.m. to 4:00 a.m.] disrupts sleep. I am concerned about the high noise levels caused by aircraft on approach from the southwest.*

Response: It is understood that aircraft noise in some neighborhoods is loud enough to interfere with residential activities. It is not uncommon to find residents in marginally impacted areas (55 to 65 DNL) to be highly annoyed by noise.

The airport has attempted to deal with the problem of noise on approach to Runway 3 (from the southwest). The airport has raised the glideslope from three to four degrees to increase the altitude of aircraft on approach. The airport also discourages long, straight-in approaches to Runway 3.

29. *Why was our area not included in the noise study? Explain the validity of the selection of noise monitoring sites. The sites chosen for noise measurement are not in areas that are most affected by the noise.*

Response: This comment seems to imply a misunderstanding of the noise analysis methodology. All areas shown in the study area map were "included in the study." That area covered approximately 23 square miles. (The study area boundaries are shown in all maps of the airport and immediate environs in the Noise Compatibility Study.) The study area covered a much larger area than was exposed to noise above 55 DNL.

The Scottsdale noise analysis was developed using a computer simulation model developed under FAA guidance – Version 4.11 of the Integrated Noise Model (INM). Part 150 regulations require the use of this model in Part 150 Noise Compatibility Studies. The noise analysis methodology is explained in Chapter Two of the *Noise Exposure Maps* document, Aviation Noise.

Key input data required to run the model were gathered by the consultant throughout the study area. These data included a description of aircraft flight tracks, the annual number of operations (takeoffs and landings) by aircraft type, the percentage of time each runway is used, and the time of day of aircraft operations. The INM includes a data base containing noise-distance-thrust relationships for virtually all types of aircraft in the country. This data base was developed by the FAA using thousands of noise measurements taken in controlled situations.

The noise measurement program undertaken in the Part 150 Noise Compatibility Study was a survey-type program intended to gather data to compare in a general way with predictions made by the INM. The noise measurement data were not needed to do the noise modeling. Sites were selected based on proximity to departure flight tracks. Departure flight tracks tend to be scattered over wide areas southwest and north of the airport. The consultant was interested in securing samples of data throughout these areas.

The consultant was less concerned about securing measurements of approach noise since the location of approach tracks is much less varied than departure tracks. (Approaches tend to be concentrated along the extended runway centerline.)

A comparison of the noise measurements with the noise modeling results is on page 2-17 of Chapter Two of the *Noise Exposure Maps* document, Aviation Noise.

30. *I have lived near the airport for two years and have never been notified about the plans for increasing air traffic, including commuter jet traffic.*

Response: The airport is not “planning to increase air traffic,” per se. The purpose of the current Airport Master Plan is to forecast potential future air traffic and to develop a plan to safely meet the needs of that traffic. The Airport Master Plan recommends that proposed improvements intended to accommodate more traffic should be constructed only if and when the demand actually materialized. FAA funding assistance for airport improvement projects is provided only after the demand for the facilities actually materializes.

Similarly, the Part 150 Noise Compatibility Study does not promote nor can it cause an increase in air traffic. It uses the forecasts developed in the Airport Master Plan to project airport noise levels in the future. It then recommends noise abatement and land use management policies to promote compatibility between the noise and local land use.

31. *I believe only the homeowners who live around the airport should be involved in [airport noise] studies.*

Response: F.A.R. Part 150 requires that noise compatibility studies must include representatives of local government agencies, airport users, and all interested persons. (See F.A.R. Part 150, Section 150.21(b).)

32. *Instead of flying over our houses at a low altitude, why can't aircraft go down Scottsdale Road and Hayden Road?*

Response: When landing, aircraft need to be aligned with the runway for about the last mile of the approach. When taking off and climbing, pilots cannot see well enough immediately below them to follow a road.

South of Thunderbird Road, considerable residential development occurs along or just off Scottsdale and Hayden Roads. It is likely that residents living near those roads would perceive the aircraft as flying over them. North of Thunderbird Road, those roads are too near the airport for aircraft to turn and fly over them to the north.

33. *It appears Coffman Associates have ignored certain noise abatement and safety recommendations developed over the last 10 years. Current policy implies that turns before reaching the end of the runway or the airport boundary are not permitted. The recommendations of the Noise Compatibility Program imply that this is no longer to be the policy.*

Response: The recommendation to which the commenter refers was taken directly from the 1986 Noise Compatibility Program. The airport does not have an existing policy requesting aircraft to fly

to the runway end before turning. (The commenter enclosed an airport information sheet and highlighted two noise abatement policies. The policies designated Runway 3 as the calm wind runway and discouraged intersection takeoffs on Runway 3.)

Noise Abatement Measure 6 requests that aircraft reach the airport boundary off Runway 3 before turning right. Given the location of housing well over a mile west of the north half of the runway, there appears to be no reason to restrict early left turns from Runway 3.

34. *Coffman Associates appears to be concerned only with jet aircraft. We also have problems with propeller-driven planes.*

Response: Jet aircraft contribute far more noise than propeller aircraft. Nevertheless, several noise abatement policies apply to propeller aircraft as well as jets. Seven of the nine original noise abatement recommendations apply to propeller aircraft. Those are listed below.

2. Continue right turns as soon as practical when departing Runway 21.
4. Continue restriction on maintenance run-ups to the daytime hours.
5. Continue to discourage straight-out and left turns after departure, stop-and-go landings, intersection departures, formation departures, and simulated single-engine practice off Runway 21.
6. Continue to discourage right downwind, right base and straight-in approaches, and right turn outs prior to the airport boundary off Runway 3.
7. Continue to discourage touch-and-go landings between 9:30 p.m. and 6:00 a.m.
8. Continue preferential use of Runway 3.
9. Continue to discourage descents below 2,500 feet MSL for practice instrument approaches.

Since the public hearing, two additional noise abatement recommendations have been added, both of which are relevant to propeller aircraft.

10. Encourage use of AOPA Noise Awareness Steps.
11. Encourage aircraft on approach to Runway 21 to avoid overflights of residential areas whenever possible.

In addition, Measure 6 has been revised also to discourage stop-and-go landings, intersection departure, formation departures, and simulated single-engine practice off Runway 3.

35. *Why not limit the number of aircraft based at the airport and prohibit commercial airlines?*

Response: While the City wants to operate the airport to be as compatible as possible with surrounding development, the City also wants to ensure that the airport continues to play an important role in the economic life of Scottsdale. The City is also interested in ensuring that the airport generates sufficient revenue to support its operation.

36. *Why does the airport encourage jet traffic which is exactly what the neighbors complain about? Why promote the use of an airport that is already one of the busiest in the country?*

Response: It is the local economy that makes Scottsdale Airport attractive to business aircraft, including jets.

37. *The landing threshold of Runway 3 should be displaced about 1,000 to 2,000 feet so approaches over the neighborhoods southwest of the airport could be held higher.*

Response: The Runway 3 threshold is already displaced 750 feet to the northwest. To produce noticeable noise reductions, additional displacement would have to be so great as to significantly reduce the amount of runway available for stopping. This is unacceptable for safety reasons given the high landing speeds of the jet aircraft using the airport. This was considered in Chapter Five, Noise Abatement alternatives. See pages 5-18 and 5-19.